



demand programming. Defendant provides such streaming services via the Internet in the United States and worldwide, for pre-recorded programming, delivered to desktop, tablet, smartphone, smart TV, streaming stick, and other streaming device and media player platforms, by way of its streaming video services (the “Netflix Video Services”).

3. Plaintiff alleges that Defendant’s Internet delivery of streaming video via the Netflix Video Services has infringed the patents-in-suit, as more particularly specified herein.

### **THE PARTIES**

4. WAG Acquisition, L.L.C. is a New Jersey limited liability company with its principal place of business at 275 Route 10 East, Suite 220-313, Succasunna, New Jersey 07876.

5. Defendant Netflix, Inc. is a Delaware corporation with its principal place of business at 100 Winchester Circle, Los Gatos, California 95032 and an address in this District at 2008 Alexander Avenue, East Austin, Texas 78722.

### **JURISDICTION AND VENUE**

6. The Court has subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331 and 1338(a), in that this action arises under the patent laws of the United States, 35 U.S.C. §§ 1 *et seq.*

7. This Court has personal jurisdiction over Defendant because it has engaged in systematic and continuous business activities in this District, including acts of patent infringement within this District giving rise to the claims asserted herein.

8. Defendant has established minimum contacts with this forum such that the exercise of jurisdiction over Defendant would not offend traditional notions of fair play and substantial justice. Defendant offers products and services in this District. Defendant Netflix, Inc. is registered to do business in the State of Texas.

9. On information and belief, Netflix distributes its streaming video over its own content distribution network (CDN), in connection with which Netflix installs its own video content servers within the infrastructure of local internet service providers (ISPs), including ISPs in this District. On information and belief, Netflix personnel control and configure such servers, including those within this District, for distributing streaming video, and hosting and distributing software for media player devices, in a manner alleged to infringe the patents-in-suit as hereinafter alleged.

10. Venue is proper in this District pursuant to 28 U.S.C. § 1400(b) because Defendant has a regular and established place of business in this District and has committed acts of infringement in this District by reason, *inter*

*alia*, of having acted in this District to configure and manage servers for distributing streaming video, and hosting and distributing software for media player devices, in a manner that infringes the patents-in-suit as hereinafter alleged.

### **THE PATENTS-IN-SUIT**

11. The patents-in-suit comprise the following United States patents, which were duly and legally issued on the dates indicated:

- U.S. Patent No. 9,742,824 (the “’824 patent”), Issue Date: August 22, 2017, Title: Streaming Media Delivery System. A copy of the ’824 patent is attached hereto as **Exhibit A** and incorporated herein by reference.
- U.S. Patent No. 9,729,594 (the “’594 patent”), Issue Date: August 8, 2017, Title: Streaming Media Delivery System. A copy of the ’594 patent is attached hereto as **Exhibit B** and incorporated herein by reference.

12. The patents-in-suit were developed in the course of Surfer-NETWORK’s business and were assigned by Harold Price (the inventor) to SurferNETWORK. Plaintiff now owns all rights to the patents-in-suit, including without limitation all rights to recover for infringement of the patents-in-suit.

13. Plaintiff has complied with the marking provisions of 35 U.S.C. § 287(a), and also required those persons authorized to operate for or under Plaintiff to comply therewith.

14. The patents-in-suit concern technological solutions to two problems that SurferNETWORK perceived in the early streaming media

implementations that characterized the prior art. First, the beginning of playback, when a user clicked on a program, would entail a significant period of “buffering,” during which the user would typically see only an hourglass. During this period, the user would have to wait until the player accumulated sufficient content over its Internet connection for the program to start. Second, even after having been started, if the program stream became interrupted, a repeat of the long and frustrating “buffering”/hourglass sequence would be necessary, and this uneven stuttering behavior could occur repeatedly. These problems resulted in a poor user experience and greatly disadvantaged Internet streaming media as compared competitively against other forms of audio and/or video media, such as radio and TV.

15. SurferNETWORK sought a solution that would jump start Internet media playback to achieve the perception of “Instant On,” so as to provide a user experience akin to what ordinarily happened when turning on a transistor radio. The patents-in-suit address the identified shortcomings in the prior art by changing the manner of use of computer facilities and the sequence of operations by which streaming media is delivered over an Internet connection, to provide an Internet streaming user experience that would then be comparable to the immediacy and continuity that the user enjoyed with ordinary radio and television.

16. The advances that the patents-in-suit assert improve over the prior art include achieving the twin and simultaneous objects of (1) fast streaming startup after a user requests a stream, and (2) avoiding interruptions once the streaming starts, for the duration of the streamed program. The claims of the patents-in-suit spell out not only these functional twin objectives, but also recite how to implement a process that achieves both objectives—*i.e.*, making the data constituting the program stream available as discrete chunks identified by serial ID, responding to client requests made for the chunks by their serial IDs, and sending each requested chunk comprising the entire stream at a higher-than-playback transmission rate. By doing these things, the patented mechanism ensures that each chunk can be transferred to the client before it is needed for playback, so the streaming client will have the latitude it needs to control the timing of its chunk requests so as to maintain its input buffer at a desired level for the entire transmission of the stream, thereby achieving the desired advance over the prior art. The claims are thus directed at specific technological measures that improve the speed and reliability of how the client and server computers communicate. They utilize the computer components in each such computer to function in a different way than those components were used in prior approaches, thereby improving how computers communicate.

17. Inventive concepts in the patents-in-suit lie in the ability to satisfy the requirements for fast streaming startup and uninterrupted delivery by switching to a “pull” model, where the flow is regulated by the pace of client requests, rather than trying to have the server pace its own delivery, and in making the pull mechanism workable, by (i) pre-collecting quantities of the program in time-sequenced chunks, (ii) using serial identifiers to ensure proper ordering of the chunks (even if some chunks are sent more quickly than others), (iii) making the server responsive to requests for chunks by their serial identifiers, and (iv) ensuring that the server will send each chunk faster than the playback rate.

18. With regard to the claims concerning receiving streams (as in the '594 patent), further inventive concepts lie in the client's ability to monitor the state of its buffer and rate of consumption of media to determine when to request chunks, and how many to request. The claims at issue make clear that not only the startup but the entire duration of the program is streamed in this manner, and using this combination of steps for sustained media streaming was not conventional at the time of the invention.

19. Defendant's accused systems avoid the delays and stuttering that characterized the prior art by using the technology claimed in Plaintiff's patents.

## **COUNT I: INFRINGEMENT OF THE '824 PATENT**

20. Plaintiff repeats and realleges the averments of paragraphs 1-19 above as if fully set forth at length herein.

21. Defendant has infringed the '824 patent under 35 U.S.C. § 271(a) by making and using server systems in accordance with one or more claims thereof, without authorization and in the United States, by conduct as hereinafter more particularly alleged.

22. In particular, the Netflix Video Services have taken advantage of Plaintiff's improved technology as claimed in the '824 patent, throughout the term of the '824 patent.

23. With regard to claim 1, Netflix uses servers to distribute pre-recorded video programs, which are stored in digitally encoded form on computer-readable media, over the Internet to multiple user systems of its customers.

24. In order to distribute these encoded video programs to the user systems, the servers used by Netflix read the pre-recorded audio/video programs from the computer-readable media upon which it is stored, as outlined in more detail below, and send chunks (*i.e.*, media data elements) of audio/video data of the video programs to the user systems in response to



requests by the user systems for the media data elements comprising the requested programs.

25. The requests by the user systems for audio/video data of the video programs reveal that the servers employed by Netflix supply media data elements that represent the video programs, in which each media data element is a chunk of data that comprises a digitally encoded portion of a video program and having a related playback rate.

The screenshot shows a web browser interface for a Netflix streaming request/response page. The left pane displays a list of requests with Serial IDs highlighted in yellow. The right pane shows the details for a specific request, including URL, Status, Response Code, Protocol, TLS, Method, Content-Type, Client Address, Remote Address, Tags, Connection, WebSockets, Timing, and Size.

Name	Value
URL	https://ip4-c131-sjc002-ix.1.oca.netflixvideo.net/range/60512964-60774789?o=AQP
Status	Complete
Response Code	200 OK
Protocol	HTTP/1.1
TLS	TLSv1.2 (TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256)
Method	GET
Kept Alive	Yes
Content-Type	application/octet-stream
Client Address	127.0.0.1:60188
Remote Address	ip4-c131-sjc002-ix.1.oca.netflixvideo.net/45.57.59.217:443
Tags	-
Connection	<ul style="list-style-type: none"> <li>Client Connection #965140658</li> <li>Server Connection #1113363111</li> </ul>
WebSockets	-
Origin	-
Version	-
Protocol	-
Extensions	-
Messages Sent	-
Messages Received	-
Control Frames Sent	-
Control Frames Received	-
Timing	<ul style="list-style-type: none"> <li>Request Start Time 5/18/20 19:51:41</li> <li>Request End Time 5/18/20 19:51:41</li> <li>Response Start Time 5/18/20 19:51:41</li> <li>Response End Time 5/18/20 19:51:43</li> <li>Duration 1.55 s</li> <li>DNS -</li> <li>Connect -</li> <li>TLS Handshake -</li> <li>Request 4 ms</li> <li>Response 1.47 s</li> <li>Latency 72 ms</li> <li>Speed 165.74 KB/s</li> <li>Request Speed 260.01 KB/s</li> <li>Response Speed 173.58 KB/s</li> </ul>
Size	<ul style="list-style-type: none"> <li>Request 1.04 KB (1,065 bytes) <ul style="list-style-type: none"> <li>TLS Handshake -</li> <li>Header 1.04 KB (1,065 bytes)</li> <li>Query String 399 bytes</li> <li>Cookies -</li> <li>Body -</li> <li>Uncompressed Body -</li> <li>Compression -</li> </ul> </li> <li>Response 255.69 KB (261,826 bytes) <ul style="list-style-type: none"> <li>TLS Handshake -</li> <li>Header 0 bytes</li> </ul> </li> </ul>

Netflix streaming request/response, showing Serial IDs

26. The above figure reflects a series of request-response captures from a Netflix streaming session. Each request for audio/video data made by a user system is an HTTP GET request (as reflected by the notation “Method GET” in the upper right of the above diagram). The GET request for each element is for a resource on the server (corresponding the “URL”, top right) containing a chunk of the requested program. The name of each resource is composed of a pair of numbers (as highlighted), which together constitute a serial identifier for the requested chunk of the program. The first request shown is for a resource named 60512964-60774789. A sequence of the serial identifiers represents a time sequence within the video program of the data being requested. The following GET requests (lines following the first line) are for the elements having the IDs next in series. In this example the next following ID (after the first) begins at 60774790. As confirmed by observing playback of the video program while the media data elements (*i.e.*, chunks) are being received, each resource so requested by the IDs shown in the figure is for the corresponding portion of the video program as requested by the user system.

27. The resource names encoded with serial identifiers reflect that serially identified data elements comprising the programs to be distributed are supplied and stored on Netflix’s servers in a data structure under the control of the servers.

28. The server is configured to receive from requesting user systems requests for the data elements for a program, which specify the serial identifiers of the requested elements, and in response to the requests, to read those elements from the server's storage media, and to send the requested data elements to the requesting user systems.

29. All of the media data elements that are sent by the server system to the requesting user systems are sent from this data structure under the control of the server system as the media data elements were first stored therein, since each media data element originates from a commonly stored structure on the server system. This is evident from Netflix's limited number of servers in comparison to its users, as each of Netflix's servers supports a plurality of users, some of whom may watch the same program.

30. Moreover, because Netflix's servers respond by sending the resource responsive to the resource name specified in the user system request resource, the servers' selecting of the media data elements responsive to these requests is performed as requested, and thus without depending on the server maintaining a record of the last media data element that has been sent to the requesting user system.

31. The distribution of a video program to a user device is thus a continuous, serial process in which, using the above-described resource

requests, the user device requests successive media data elements of the video program from a Netflix server, and the Netflix server responds in turn by sending the requested resource as a media data element to the user system via the Internet. This process continues until the entire video program has been received by the user system. As a result, all of the media data elements that are sent by Netflix's server system to a user system (*i.e.*, from the beginning to the end of the viewing session) are sent in response to the requests made by the user system during the course of playback of the media program.

32. The distribution of a video program to a user device is thus a continuous, serial process in which, using the above-described resource requests, the user device requests successive media data elements of the video program from a Netflix server, and the Netflix server responds in turn by sending the requested resource as a media data element to the user system via the Internet. This process continues until the entire video program has been received by the user system. As a result, all of the media data elements that are sent by Netflix's server system to a user system (*i.e.*, from the beginning to the end of the viewing session) are sent in response to the requests made by the user system during the course of playback of the media program.

33. Furthermore, with regard to the dependent claims, as reflected in the above example, the aforementioned identifiers, in addition to being serial,

may also be sequential, and the sending is via a reliable transmission protocol, which may be TCP.

34. Netflix also makes and uses systems that incorporate and execute instructions that carry out the foregoing streaming media distribution, as well as computer-readable media (computer program products) that incorporate such instructions.

35. By performing the above-described processes, and making and using the above-described systems and computer program products, Netflix has thereby infringed one or more claims of the '824 patent during its term, in the United States.

36. The foregoing allegations encompass all servers used for distributing Netflix Video Services in, or controlled from, the United States (regardless of where the users were located).

37. Pursuant to 35 U.S.C. § 284, Plaintiff is entitled to not less than a reasonable royalty for the use made by Defendant under the '824 patent, in an amount subject to proof at trial, together with interest and costs as fixed by the Court.

## **COUNT II: INFRINGEMENT OF THE '594 PATENT**

38. Plaintiff repeats and realleges the averments of paragraphs 1-37 above as if fully set forth at length herein.

39. Defendant has infringed the '594 patent under 35 U.S.C. § 271(a) by making and using computer recorded media for a streaming media player in accordance with one or more claims thereof, without authorization and in the United States, by conduct as hereinafter more particularly alleged.

40. In particular, the Netflix Video Services has taken advantage of Plaintiff's improved technology as claimed in the '594 patent, throughout the term of the '594 patent.

41. With regard to claim 1, the Netflix Video Services utilize software provided by Defendant and put into the hands of the user, which executes on the user's media consuming device (*e.g.*, computer, smartphone, tablet, smart TV, streaming stick, or other streaming devices, referred to as the "media player"), and causes that device to make requests for streaming media data elements that are handled by Defendant's servers as described above in connection with the '824 patent.

42. The software described in the foregoing paragraph is embodied in JavaScript files (*e.g.*, cadmium-playercore-x.xxxx.xxx.xxx.js (where the x characters represent a serial number), which Defendant creates and maintains as electronic copies on computer-readable media on its server systems, thereby making articles within the scope of the claims of the '594 patent. During the term of the '594 patent, Defendant has used its copies of such software, under

the control of Defendant's servers, to read from such copies the contents of the JavaScript software, to enable Defendant's servers to transmit the JavaScript files to users, so that said software may then be operated on the user's media player device to make the above-described requests to the servers deployed by the Netflix Video Services and work correctly with those servers.

43. Plaintiff states, on the same basis as it did with respect to the corresponding allegations concerning the '824 patent, *i.e.*, based on direct observation, that the JavaScript software instructions are executable to cause the user's media player device (via its processor) to send requests (HTTP GET requests as shown above with respect to the '824 patent) via an Internet connection for a media data element that is part of a desired audio/video stream, identified by a serial identifier. The requested media data elements have a playback rate. The instructions also cause the media player to receive the requested media data elements over a data connection having a data rate more rapid than the playback rate, receiving the requested media data elements as fast as the data connection allows.

44. Monitoring playback further shows that the instructions further cause the media player to store the received media data elements in its memory, and play the received media data elements back in series from the memory. Observing the captures over time also reflects that the instructions

are further executable to cause the media player, as the received media data elements are played, to automatically send additional requests for subsequent media data elements for storage in the memory of the media player, as required to maintain about a predetermined number of media data elements in the memory of the media player during playing.

45. Furthermore, with regard to the dependent claims, the instructions cause the media player to maintain in its memory a record identifying the last media data element received and stored by the media player. As reflected in the above example, shown in paragraph **Error! Reference source not found.**, the aforementioned identifiers, in addition to being serial, may also be sequential. The media data elements are received via a reliable transmission protocol, which is TCP. In addition, as noted above, the JavaScript software is provided as a software application for the media player.

46. Defendant, by making and using the systems and computer program products described above, has thereby infringed one or more claims of the '594 patent, during its term, in the United States.

47. The foregoing allegations encompass all servers used for distributing Netflix Video Services in, or controlled from, the United States (regardless of where the users were located).



48. Pursuant to 35 U.S.C. § 284, Plaintiff is entitled to not less than a reasonable royalty for the use made by Defendant under the '594 patent, in an amount subject to proof at trial, together with interest and costs as fixed by the Court.

### **DEMAND FOR JURY TRIAL**

Plaintiff demands trial by jury on all issues.

### **PRAYER FOR RELIEF**

WHEREFORE, Plaintiff WAG ACQUISITION, L.L.C. requests an entry of judgment in its favor and against Defendant as follows:

- i. Declaring that Defendant has infringed one of more claims of United States Patent Nos. 9,742,824 and 9,729,594;
- ii. Awarding to Plaintiff the damages arising out of said infringement of United States Patent Nos. 9,742,824 and 9,729,594;
- iii. Awarding attorneys' fees, costs, or other damages pursuant to 35 U.S.C. §§ 284 or 285 or as otherwise permitted by law, against the Defendant;
- iv. Awarding costs in this action to Plaintiff; and

v. For such other and further relief as the Court may deem just and proper.

Dated: New York, New York  
October 18, 2021

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